

**ABSTRACT**

5       The present invention is directed to novel telomerase enzyme and  
telomerase reverse transcriptase nucleic acids and amino acids. In particular, the present  
invention is directed to nucleic acid and amino acid sequences encoding telomerase  
enzyme subunits and telomerase reverse transcriptase obtained from *Euplotes*  
*Schizosaccharomyces*, other yeast, *Tetrahymena*, other fungi, mouse and other mammals,  
including human. The present invention is also directed to polypeptides comprising these  
10   telomerase enzyme and TRT protein subunits, as well as functional polypeptides and  
ribonucleoproteins that contain these subunits.

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